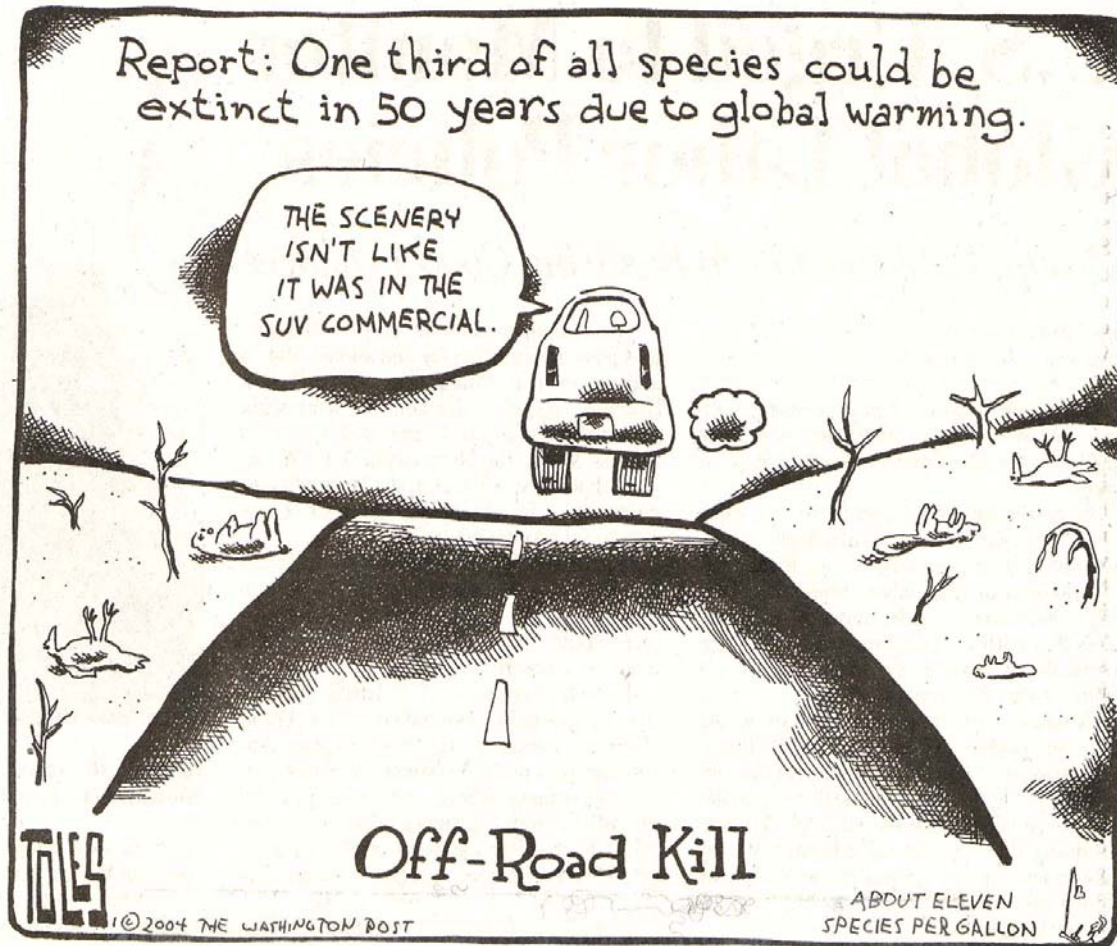


The Washington Post

THE WASHINGTON POST

Tom Toles



8 January 2004

International weekly journal of science

nature

£10.00

www.nature.com/nature

Feeling the heat

Biodiversity losses due
to global warming

Supernova close-up

The red giant was not alone

Embryonic stem cells

New route to fertile sperm

Earth's atmosphere

Then there was oxygen





Cost of global warming: 1 million species

The Washington Post

**Warming May Threaten
37% of Species by 2050**

THE  SUN
Baltimore, Maryland

**Broad study
on climate
envisions
extinctions**

San Jose Mercury News

**Study: Global warming
to doom many species**

IT MAY BE WORSE THREAT THAN HABITAT LOSS

San Francisco Chronicle

NORTHERN CALIFORNIA'S LARGEST NEWSPAPER

Dire warming warning for Earth's species



How Di made us into
conspiracy theorists

Catherine Bennett in G2



Last act
The inside story
of a stage flop

In G2

Craig Johnston
Footballer to
design genius

In G2

2004 – a hectic
year in space
In Life

Plus Online & jobs

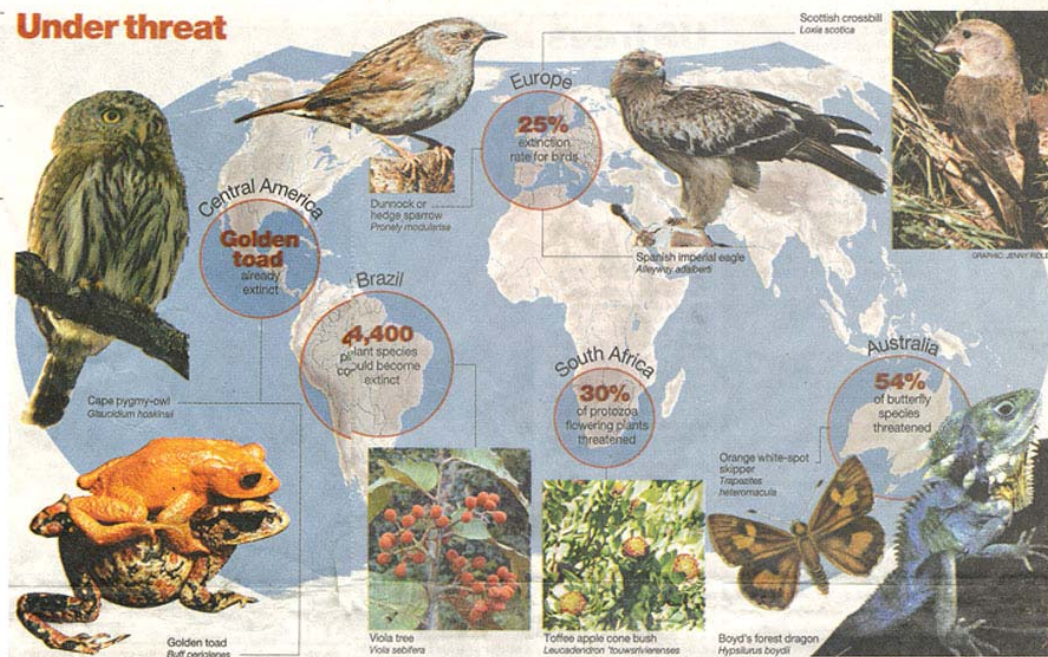
55p
Thursday
January 8 2004
Published in London
and Manchester
guardian.co.uk

The Guardian

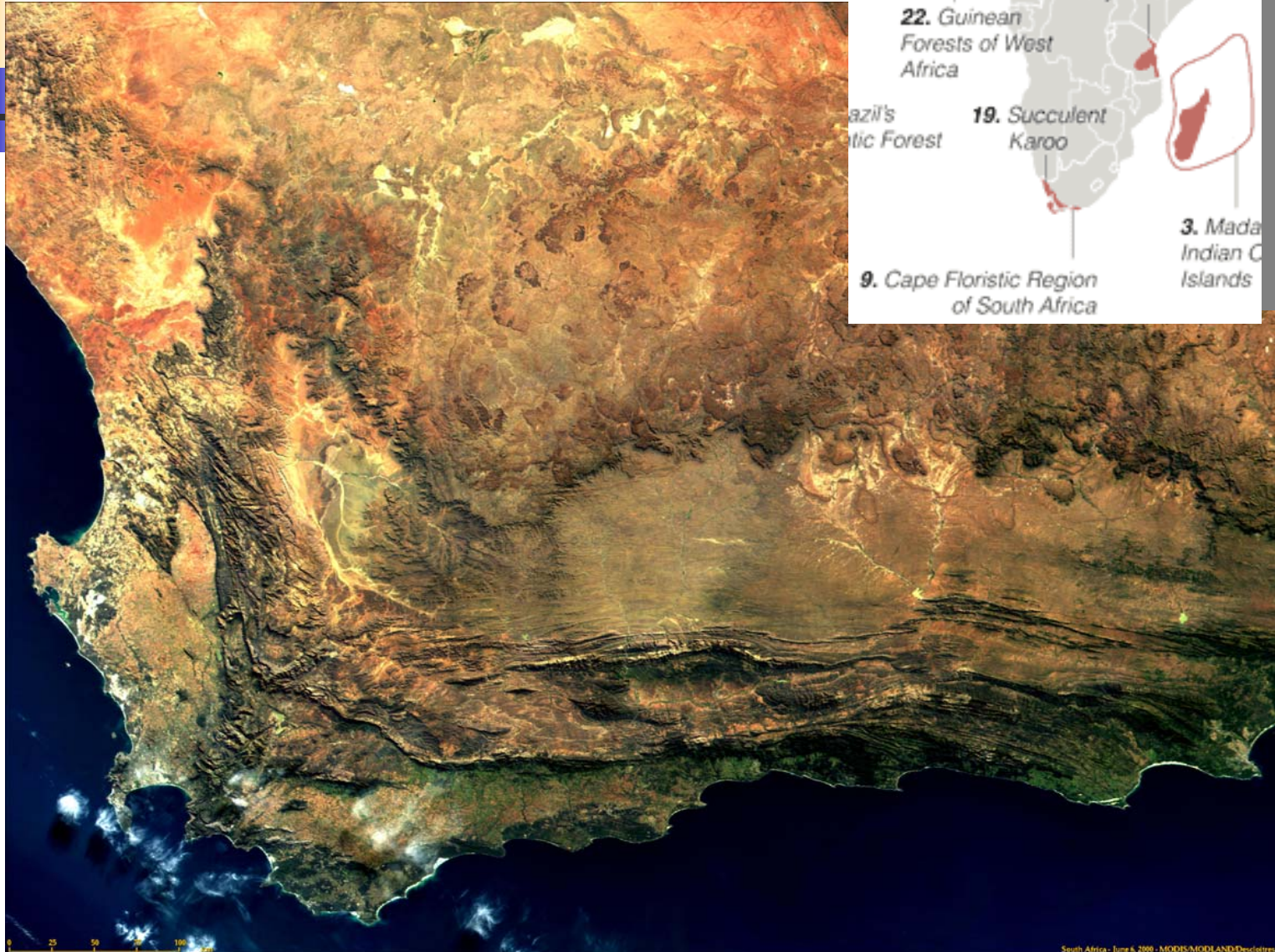
An unnatural disaster

- Global warming to kill off 1m species
- Scientists shocked by results of research
- 1 in 10 animals and plants extinct by 2050

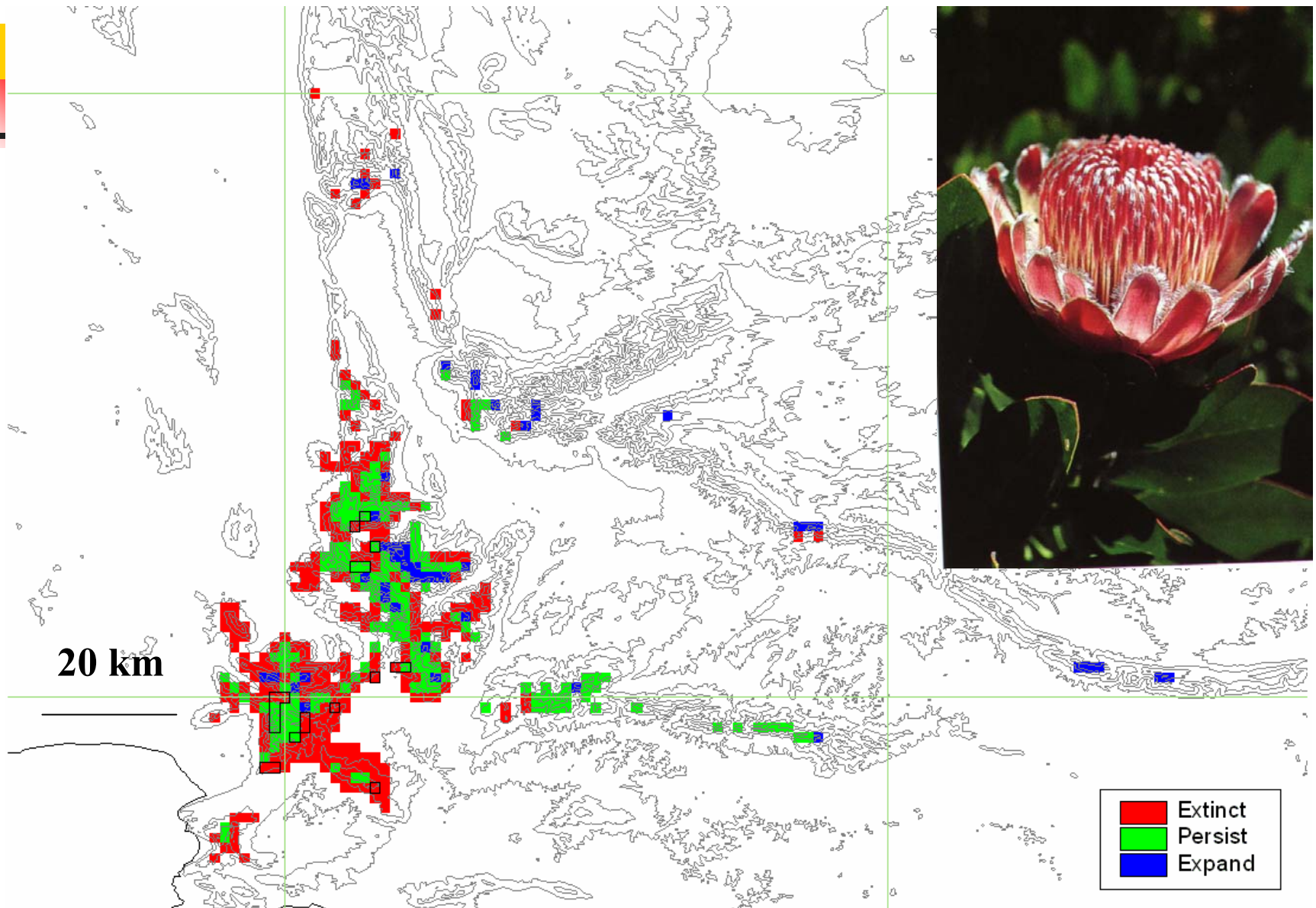
Under threat



Twin Hotspots



Protea lacticolor distribution: current and future (CSM Excluding sulphates)

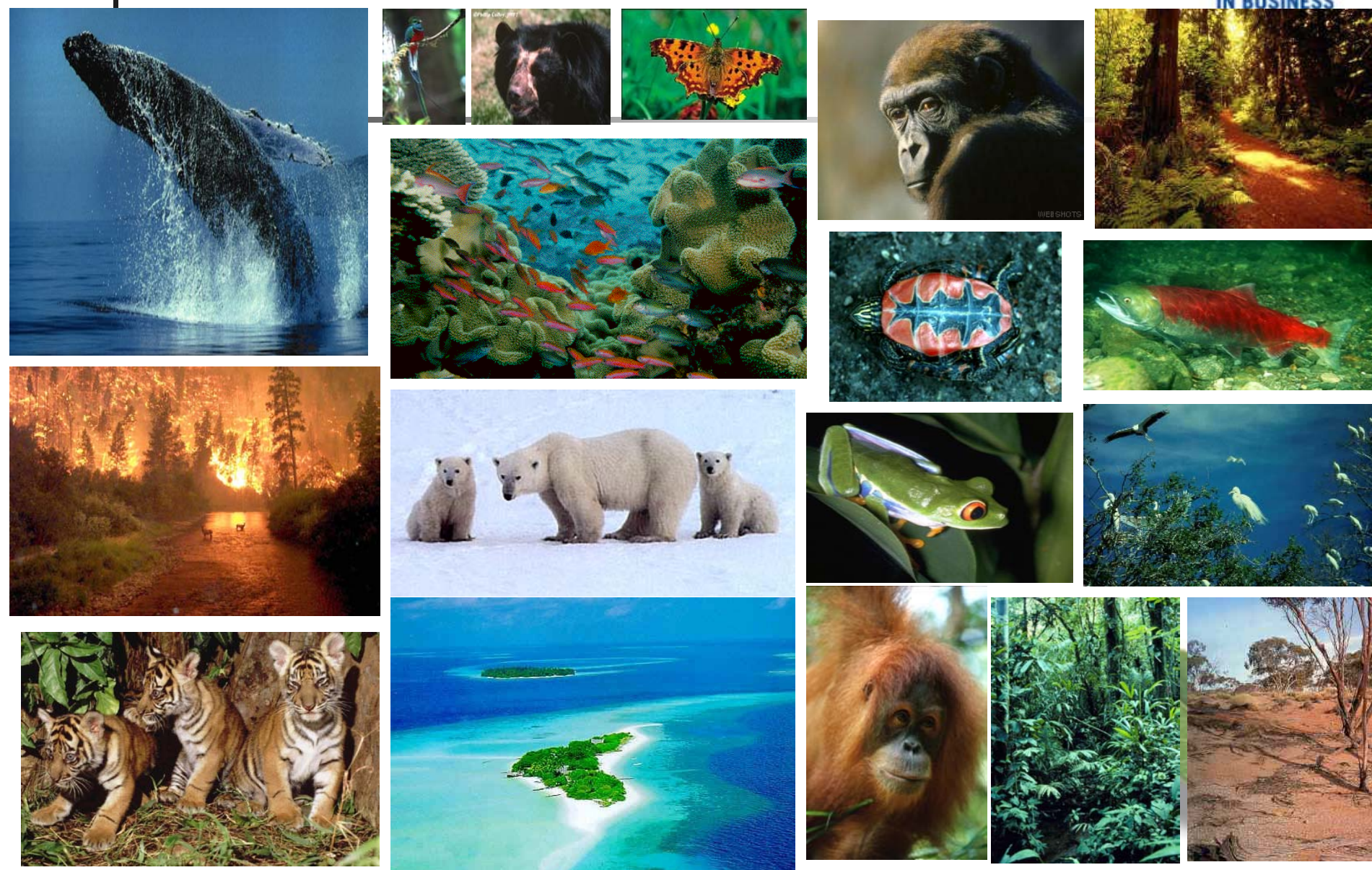




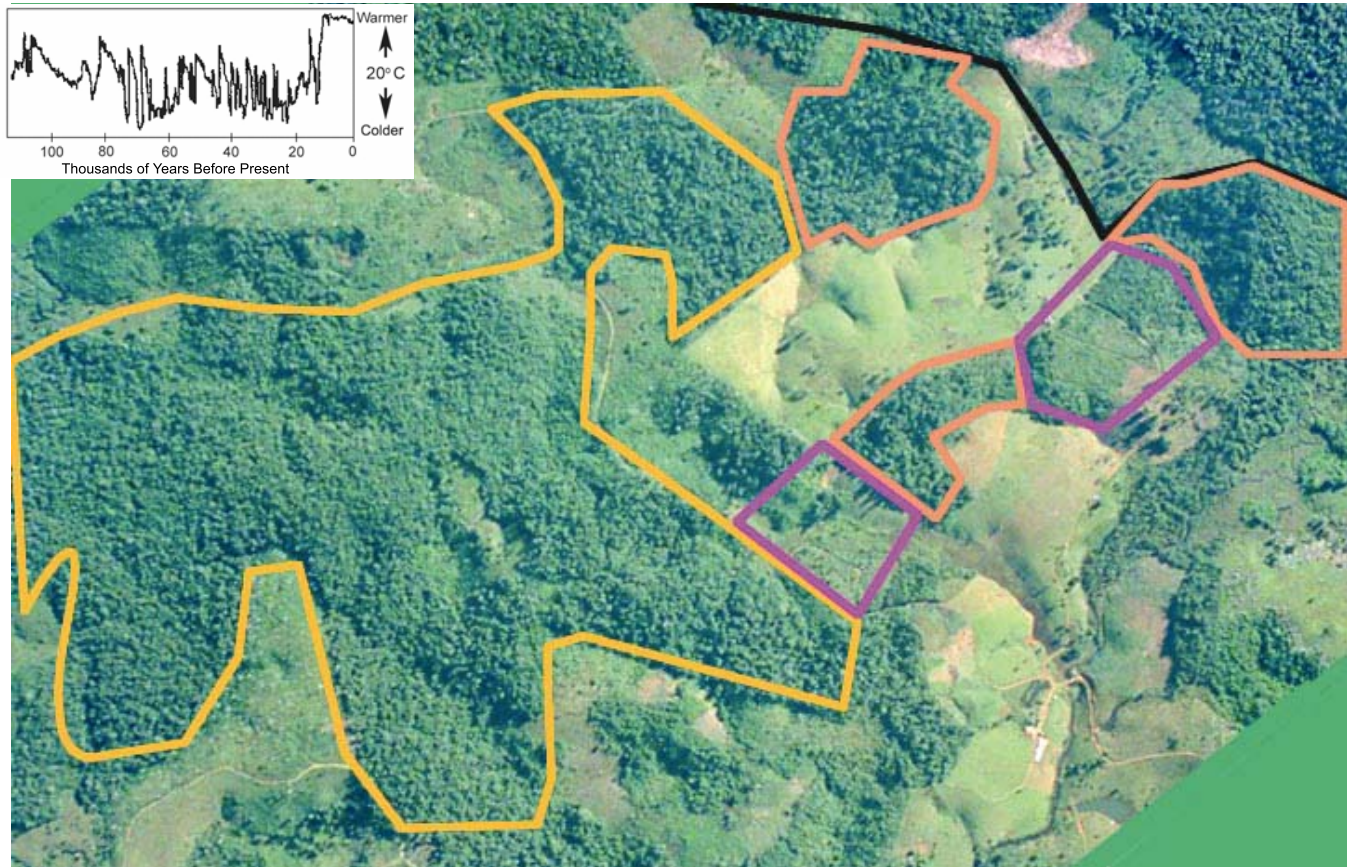
Common Questions

- Is a million an accurate number?
- Are these extinctions inevitable?
- What about the ice age?

Are a million species at risk?



Why the past is no consolation





The Models

'Niche' models:

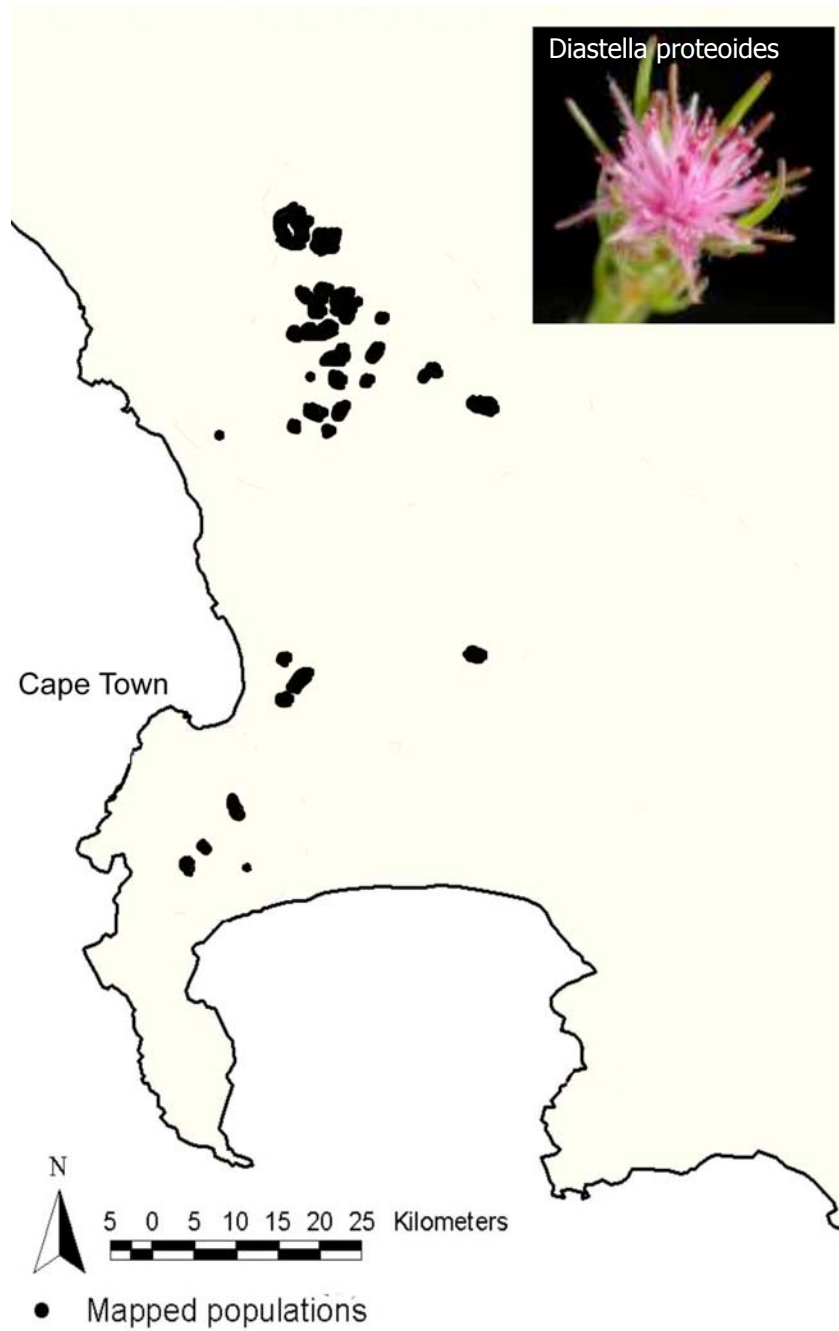
- GAM
- GARP
- ANN
- Genetic Algorithms

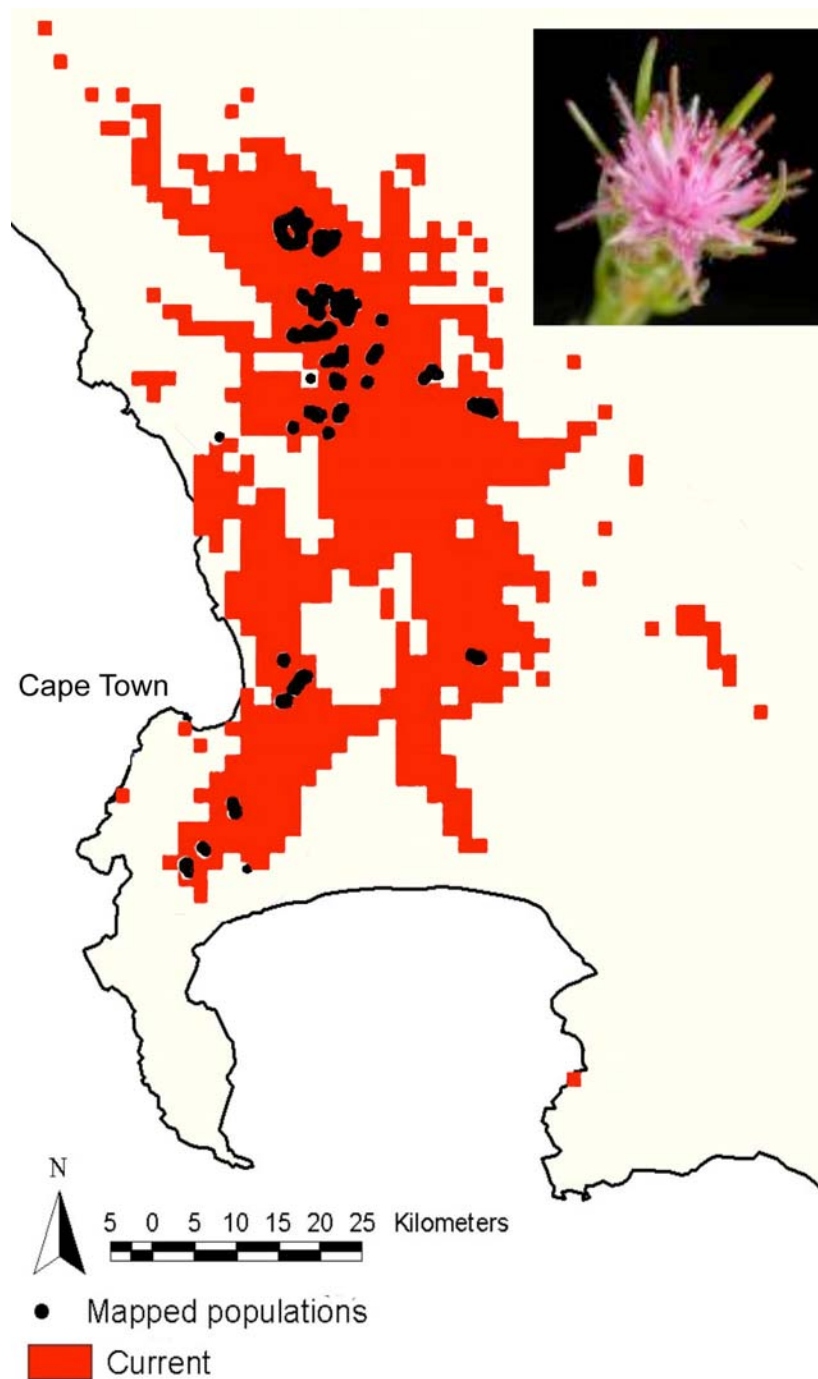


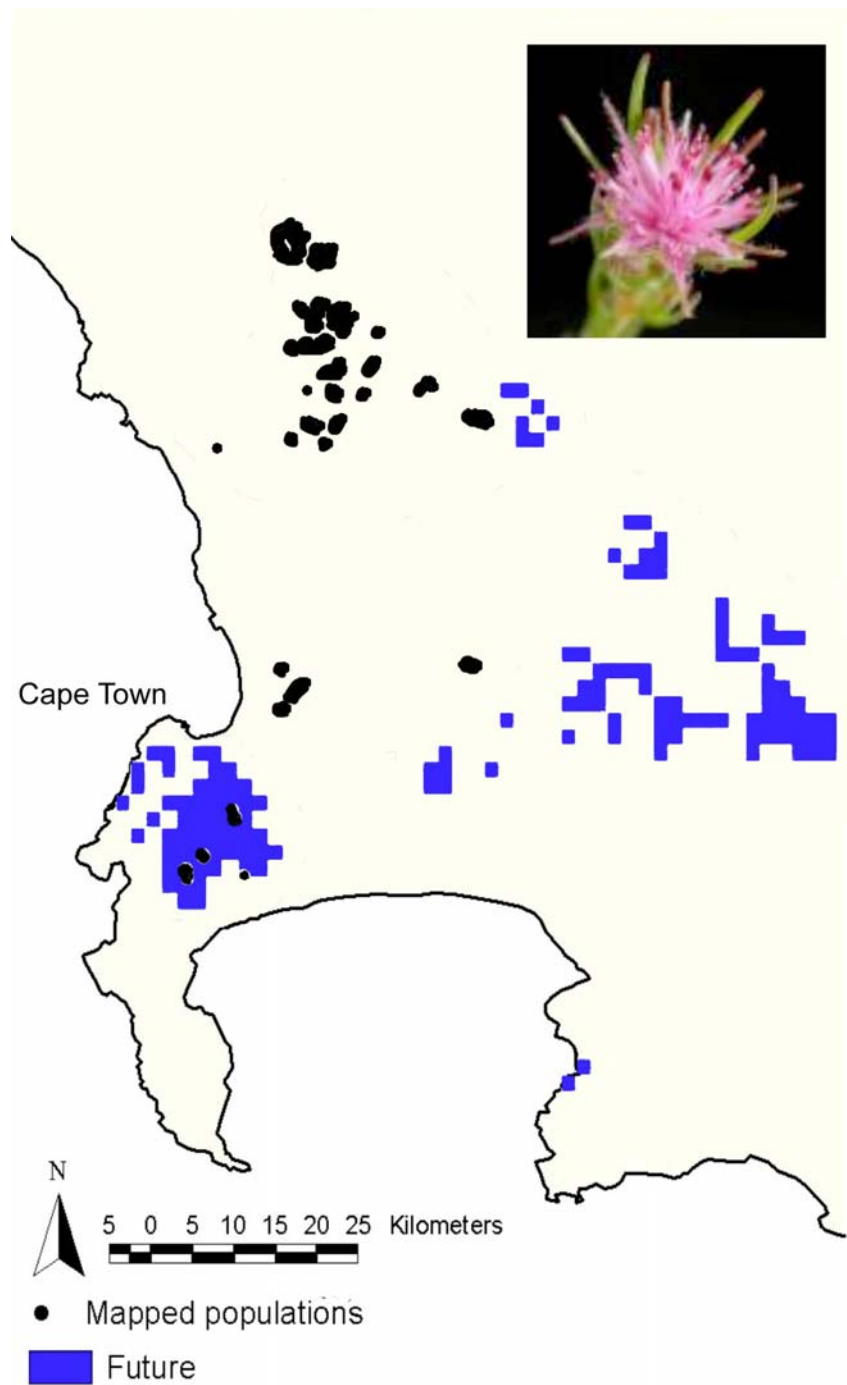
Their Limitations

- Dispersal
- Competition
- Disturbance Regimes

Diastella proteoides









A New Approach for California

– Hybrid Models

- Dynamic Vegetation Models
 - Disturbance Regime Models
 - Gap Models
 - Competition Models (e.g., FATE)
 - Dispersal models (BioMove)
-
- Combined elements in a landscape framework (LAMOS)



Extinctions are **not** inevitable

- Improved conservation strategies
- Limiting greenhouse gas concentrations